



UNDERSTANDING RISK MANAGEMENT IN THE DOD

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Although the Department of Defense's (DoD's) current risk management direction presents a comprehensive and robust approach to identifying, assessing, and managing risk, it does not adequately emphasize the interface between risk management and contract administration. In essence, a well-crafted, risk-appropriate contract can temper the sensitivity between technical risk and the probability of cost and schedule overruns, while a poorly crafted contract can actually increase the probability of cost and schedule overruns. By better linking sound risk management practices with sound contract administration practices, the DoD stands to continue being the bellwether federal agency for pushing the state-of-the-art in effective risk management.

Risk management in the Department of Defense (DoD) has evolved from a fairly esoteric concept to a key component of DoD's management of major system acquisitions. Risk management is directed by DoD Directive 5000.1, *Defense Acquisition*, DoD Directive 5000.2-R, *Mandatory Procedures for Major Defense Acquisitions Programs and Major Automated Information System Acquisition Programs*, and is best described in the Defense Acquisition University's (DAU) *Risk Management Guide for DoD Acquisition*. Within the DoD, the Under Secretary of Defense, Acquisition, Technology, and Logistics (USD[A&T]) is the "process owner" for risk management. The Department of Defense, Defense Acquisition University, Defense Systems Management College is the USD(AT&L)'s "Center of Excellence" for

risk management. Although each of the Services has its own risk management process owners at the Secretariat level, the Service's risk management programs are derivatives of the Office of the Secretary of Defense program and are closely aligned with the DAU's *Risk Management Guide*.

Although DoD's current risk management direction presents a comprehensive and robust approach to identifying, assessing and managing risk, it does not adequately emphasize the interface between risk management and contract administration. This shortcoming may be an artifact of the history of risk management in the DoD. Specifically, the watershed event for risk management in the DoD was a 1982 Defense Science Board (DSB) Task Force that examined why the DoD continued

to experience significant cost overruns and schedule delays on major weapon system acquisitions. The resulting DSB report identified the lack of a systematic approach to managing technical risk (particularly during a weapon system's design phase) as the primary cause of weapon systems cost overruns and deployment delays.

The DSB noted that although cost overruns and schedule delays often manifested themselves during full-scale production, the origin of most production problems stemmed from design risks. As a result, the DSB recommended that the DoD develop a systematic approach for identifying, understanding, and managing technical risk throughout a weapon system's life cycle, with specific emphasis on managing design risk. The outcome of the DSB study was the issuance of DoD 4245.7-M, *Transition from Development to Production*, in September 1985. DoD 4245.7-M decomposes each phase of a weapon system's developmental life cycle into discrete steps, and, in template form, identifies potential risks and provides recommendations for reducing those risks.

Accordingly, the approach taken by DoD Directive 5000.1, *Defense Acquisition*, DoD Directive 5000.2-R, *Mandatory Procedures for Major Defense Acquisitions Programs and Major Automated Information System Acquisition Programs*, and the Defense Acquisition University's *Risk Management Guide for DoD Acquisition* focuses on following a weapon system from its initial Mission Element Need Statement, through system development, production, and deployment. In documenting the need for a new weapon system, DoD places great emphasis on establishing a program's technical critical success factors up-front (e.g., critical performance/war fighting capabilities, deployment schedules, acquisition and life cycle costs, etc.). Accordingly, DoD's approach to risk assessment focuses on identifying the uncertainties and risks to achieving a program's critical success factors.

Figure 1 illustrates the DoD's focus on the relationship between technical risk and cost and schedule overruns.

Relatedly, Figure 2 illustrates DoD's overall approach to risk management (i.e., that technical risk be managed through a

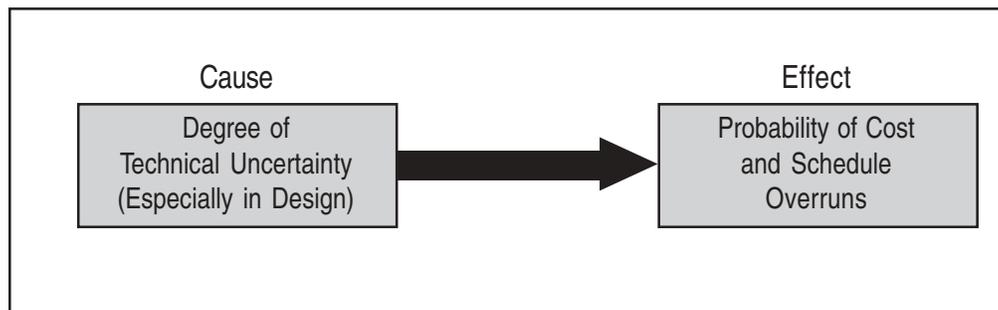


Figure 1. Defense Science Board Model

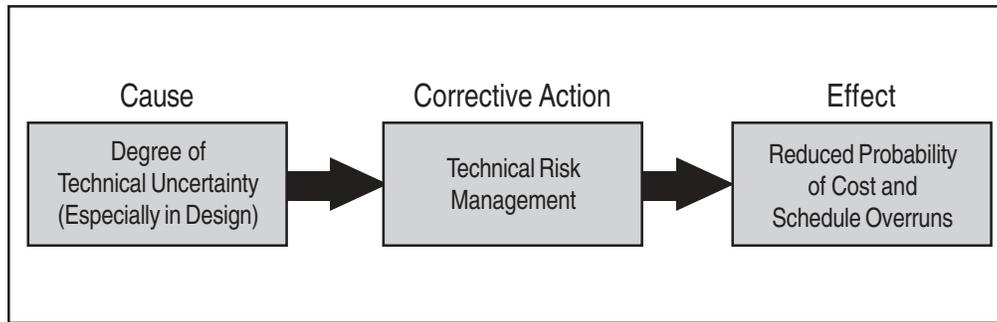


Figure 2. Defense Science Board Recommendation

systematic process of risk identification, assessment, and handling).

There is no dispute that there is a strong relationship between technical risk and cost and schedule overruns, nor is there any dispute that DoD Project Offices must assess and mitigate technical risk if they are to be successful. However, what must be kept in mind is that technical risk in-and-of-itself does not directly result in cost and schedule overruns. The moderating variable is the manner in which a project's contract is crafted and how deftly the contract is administered, given the nature of a project's technical risk. In essence, a well-crafted, risk-appropriate contract can temper the sensitivity between technical risk and the probability of cost and

schedule overruns, while a poorly crafted contract can actually increase the probability of cost and schedule overruns. Figure 3 illustrates this point.

Although the key DoD directives acknowledge the relationship between risk management and contract management, the overall discussion is not particularly robust or illustrative. Particularly, the DoD guidance is lacking in three areas:

1. The DoD guidance offers little specificity in relating the nature of technical risk and the appropriateness of one contract type over another. For example, although the DAU's *Risk Management Guide for DoD Acquisition* states that "the Government contracting officer should...select

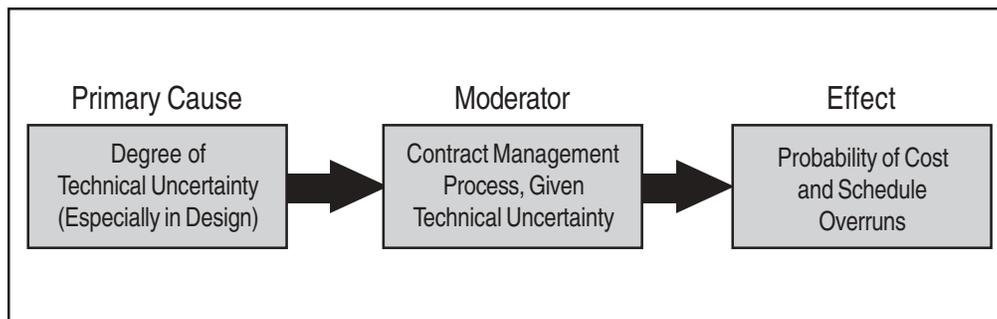


Figure 3. Revised Model

the proper type of contract based on an appropriate risk assessment, to ensure a clear relationship between the selected contract type and program risk” (p. 32), this guidance is not particularly prescriptive in assisting a Project Office in choosing the most appropriate contract type vis-à-vis the results of a risk assessment.

2. The DoD guidance does not discuss the relationship between contractor/government risk sharing arrangements and the key Federal Acquisition Regulation (FAR) clauses typically invoked in a contract.
3. The DoD guidance only addresses risk management in the context of major weapon systems and Automated Information Systems (AIS) acquisitions. However, the Office of

Management and Budget Circular A-11, which is the governing document for implementing risk management in the federal government, is applicable to all major capital asset acquisitions including Military Construction (MILCON) projects and environmental restoration (ER) projects.¹ As such, risk management should be as much a component of planning for and managing MILCON and ER projects as it is for weapon systems and AIS projects.

Experience has shown that the type of contract chosen, and the congruency between a contract’s terms and conditions and whatever risk sharing arrangement is adopted, both have a direct bearing on the effectiveness of risk management and cost and schedule performance. Given this, Figure 4 offers an

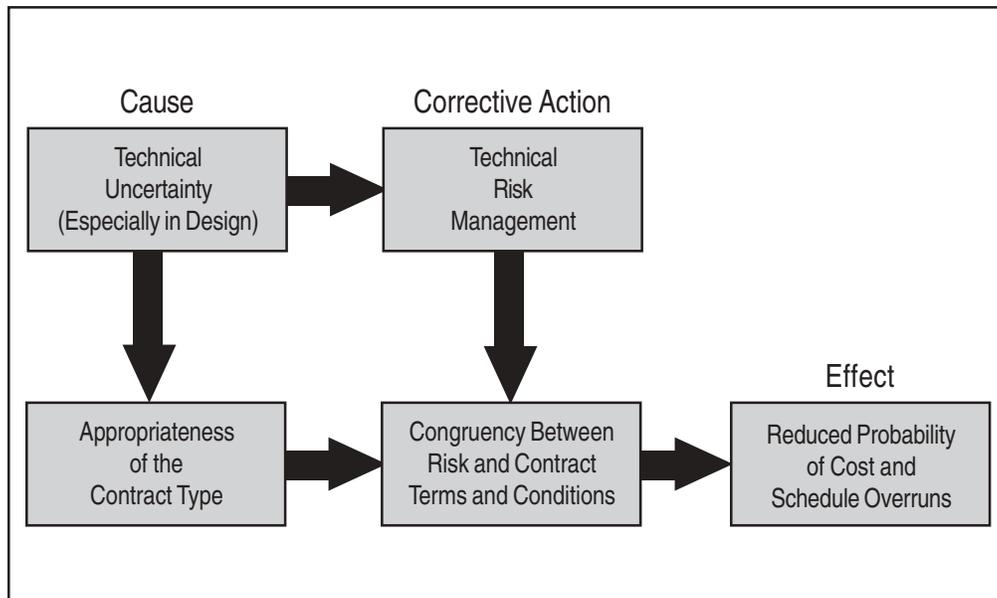


Figure 4. Revised Recommendation

alternative approach for thinking about relationships among technical risk, contract management, and the probability of cost and schedule overruns.

Accordingly, the following discussion serves to augment the current DoD guidance with some additional thoughts that address these areas of concern.

CHOOSING AN APPROPRIATE CONTRACT TYPE, GIVEN THE RESULTS OF A RISK ASSESSMENT

In the absence of specific DoD guidance on the subject, a good source of information for determining which contract type to adopt given the results of a risk assessment is FAR Part 16. Although FAR Part 16 is not written in “risk terminology,” there is a close tie between its discussion and the lexicon of risk management. Specifically, the general discussion in FAR Part 16 regarding fixed-price versus cost-reimbursable contracting can easily be interpreted from a risk management perspective. For example, FAR Part 16 states that a fixed price-contract should be used if “performance uncertainties can be identified and reasonable estimates of the cost impact can be made, and the contractor is willing to accept a firm fixed price representing assumptions of the risks involved” (FAR 16.202). However, if there “is serious doubt concerning the stability of market or labor conditions that will exist during an extended period of contract performance,” (FAR 16.203-2). FAR Part 16 recommends using a fixed-price contract with economic price adjustment (i.e., wherein the government assumes the risk of cost increases for select labor and/or material costs when these costs cannot be readily predicted). On the other hand,

FAR Part 16 states “cost-reimbursable contracts are suitable for use only when uncertainties involved in contract performance do not permit costs to be estimated with sufficient accuracy to use any type of fixed-price contract.” (FAR 16.301-2)

In addition to discussing the conditions under which each contract type should be employed, FAR Part 16 also contains a detailed discussion of the various fee structures applicable to both fixed-price and cost reimbursable contracts, including incentives to reward cost and schedule performance. However, what is not explicitly stated in FAR Part 16 is that the use of such incentives should be aligned with the risk sharing arrangement of a contract. For example, if there is significant schedule risk associated with a project, then it would make sense to reward a contractor for schedule performance vis-à-vis the contract’s risk sharing arrangement. Likewise, if a contractor assumes significant cost risk, then a commensurate cost performance award structure should be employed that rewards a contractor for effective cost mitigation/reduction strategies.

Accordingly, a Project Office’s risk assessment not only should be a key determinant of what type of contract the Project Office should adopt, but also the nature and magnitude of any contractor incentive program as well. Contractors are motivated by profit, and, therefore, the potential economic rewards a contractor can realize should be consistent with the risks a contractor is being asked to assume.

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CONGRUENCY BETWEEN RISK ASSESSMENT/ RISK SHARING AND CONTRACT LANGUAGE

It has become increasingly commonplace for DoD Requests for Proposals (RFPs) to identify the risks a contractor is expected to assume under a proposed contract. It has also become commonplace for a contractor's technical proposal to describe how it intends to manage that risk — including specific risk handling strategies.

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Although this practice offers a dynamic and responsive partnership between the DoD and its contractor base, there is a potential downside. Specifically, risk sharing becomes a negotiated, and, to some extent, a customized process. However, the standard

FAR clauses normally invoked in a contract are often done from a “boiler-plate” perspective (i.e., which FAR clauses are invoked is based on the overall contract type, without deference to any specific risk sharing arrangement in the Statement of Work). However, a number of FAR clauses also establish certain risk-sharing rules. Accordingly, diligence is required to ensure that there are no incongruencies between the risk sharing arrangement enumerated in a Statement of Work and the FAR clauses subsequently invoked in the same contract.

With this in mind, the following paragraphs discuss some of the typical FAR

clauses invoked in DoD contracts, along with a discussion of how a stated risk sharing/risk management arrangement needs to be consistent with those clauses.

Issue 1: The Sovereign Acts Doctrine.

Although not a FAR clause *per se*, the Sovereign Act Doctrine is an overarching legal concept that serves to establish one of the key contextual components of the FAR. Sovereign acts are acts of the government in its role of protecting the public interest and which are not specific to a particular contract. Examples are legislative acts (including changes to the United States Code or the Code of Federal Regulations), Executive Orders and executive branch policy directives. Generally, a contractor absorbs the cost and schedule impacts associated with sovereign acts of the government, unless the contract specifically states that the government will assume such risk. Accordingly, if the intent of the risk sharing arrangement between a contractor and a DoD Project Office is for the government to absorb the risk of a specific sovereign act, then the contract must clearly enumerate the government's liability should such an event occur.

Issue 2: Davis-Bacon Act (FAR 52.222-6, FAR 52.222-30, FAR 52.222-31, and FAR 52.222-32). Davis-Bacon requires a contractor to pay prevailing wages as determined by the Department of Labor for specific laborers and mechanics covered under the Copeland Act. However, either the government or a contractor can be responsible for any resulting cost increases, depending on which specific FAR clause is invoked (i.e., if FAR 52.222-40, is invoked, the government is liable, if either FAR 52.222-31 or FAR 52.222-32 are invoked, the contractor is liable). Therefore, to the extent Davis-Bacon is applicable

to a contract, the respective FAR clause incorporated in the contract must be consistent with the risk sharing arrangement agreed to by the parties.

Issue 3: Service Contract Act (FAR 52.222-41, FAR 52.222-43, and 52.222-44). Similar to the Davis-Bacon Act, the Service Contract Act requires a contractor to pay prevailing wages as determined by the Department of Labor for employees in “other than an executive, administrative or professional capacity” (FAR 52.222-41). Generally, increases in prevailing wages under the Service Contracting Act are not subject to contract price adjustment unless FAR 52.222-43 or FAR 52.222-44 is invoked. Therefore, in the absence of either of these FAR clauses, a contractor assumes the risk of wage increases for any contract covered under the Service Contract Act.

Issue 4: Excusable Delays (FAR 52.249-14). The standard FAR excusable delay clause protects a contractor from defaulting on a contract for failure to perform for causes beyond its control, including: (1) acts of God or of the public enemy, (2) acts of the government in either its sovereign or contractual capacity, (3) fires, (4) floods, (5) epidemics, (6) quarantine restrictions, (7) strikes, (8) freight embargoes, and (9) unusually severe weather. Note that the excusable delay clause is intended to provide a contractor with schedule/delivery relief, not financial relief *per se*. Moreover, the Court has taken a fairly restrictive view of excusing any other events beyond those specifically enumerated in FAR 52.249-14 (for example, the Court has rejected contractor financial difficulties, lack of facilities or equipment, lack of materials, or lack of know-how as excusable delays).

Case law provides additional clarity regarding a number of excusable delays that are open to interpretation. Specifically, the Court has determined that:

- An act of God is a singular, unexpected and irregular visitation of a force of nature and has further stated that illness or death of key contractor personnel are not acts of God.
- Regarding an act of the government in its contractual capacity, a contractor must prove that the government’s act was wrongful (improper or unreasonable), including that the government failed to perform in its contractual duties. This failure can include lack of timely response to contractor requests, improper inspections, failure to act on a change proposal, the issuance of defective specifications, etc.
- Regarding an act of the government in its sovereign capacity, a contractor must prove that the government act directly delayed the contractor’s performance.
- Regarding strikes, a contractor must prove that it acted reasonably by not wrongfully precipitating or prolonging a strike, and that the contractor took adequate steps to avoid its effect.
- Regarding unusually severe weather, a contractor must demonstrate that the weather was unforeseeable (i.e., abnormal for the same location at the same time of the year), and that critical work was actually delayed.

Moreover, the Court has held that a contractor is not entitled to contract

adjustment simply because an excusable delay has occurred. In addition to demonstrating that an excusable delay actually occurred, a contractor must also demonstrate that: (1) the event was beyond the contractor's control (including that it was not foreseeable at the time of contract signing); (2) the contractor could not have prevented the event; (3) the contractor could not overcome the effects of the event; (4) no contractor fault or negligence contributed to the

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event; and (5) the event caused a delay to the overall completion of the contract. This latter point places a burden on a contractor to demonstrate the causality between the excusable event and the delay (see *Fox-Sadler Co.*,

ASBCA 8421, 1963) and that the lost time actually affected contract completion (see *George A. Fuller Co.*, ASBCA 9590 [1964]). In terms of demonstrating that any lost time actually affected contract completion, the Court has held that when the critical path method is used, the delay must be on the critical path (see *Cimarron Constr. Co. v. United States*, 203 Ct. Cl. 742 [1974]) and that the schedule itself must be credible (see *J.W. Basteson Co.*, ASBCA 27491, 84-3).

The excusable delay clause is one of the most important FAR clauses vis-à-vis risk management and, therefore, it is critical that any risk sharing arrangement as specified in a Statement of Work be consistent with the excusable delay clause and its relevant case law. In particular, a DoD Project Office

should not accept a risk sharing arrangement where it assumes responsibility for schedule impacts that are inconsistent with the excusable delay clause. A good example would be a risk sharing arrangement where the government assumes responsibility for a schedule impact where a contractor has the wherewithal to overcome the impact. An inverse example would be a risk sharing arrangement where a contractor assumes responsibility for a schedule impact associated with abnormal weather conditions.

Issue 5: Differing Site Conditions (FAR 52.236-2). The standard FAR differing site conditions clause (which is almost always invoked in both MILCON and ER projects) provides a contractor with contract relief if it encounters "sub-surface or latent physical conditions at a site which differ materially from those indicated in a contract, or unknown physical conditions at a site of an unusual nature, which differs materially from those ordinarily encountered." There is significant case law that establishes the litmus tests for demonstrating that a differing site condition exists:

- The condition must pre-date the issuance of the notification to proceed under the contract;
- Weather and acts of God are generally excluded from coverage under differing site conditions (but may be causes for excusable delay adjustments);

- Man-made conditions can be included under the aegis of differing site conditions;
- The condition must be a “physical condition” (i.e., the concept does not apply to changing political or economic conditions);
- The condition must be at the site as defined in the contract (i.e., off-site areas, including facilities that directly support a contractor’s effort but are not defined in the contract as “the site” are not covered); and,
- The difference must be “material.” This requires a contractor to first demonstrate what is the “normally expected condition” before an assessment can be made as to whether the actual condition was materially different. However, the Court has held that “custom and trade usage” can be used to demonstrate what is “normal.” Moreover, the Court has also held that just because work cost more than what was originally contemplated does not demonstrate a material difference in conditions.

Conditions of an “unusual nature” are more likely to be encountered than “latent physical conditions” (i.e., those being geological in nature). In *Lathan Co. v. United States*, 20 C. Ct. 122 (1990), the Court established that a contractor has to show three elements to demonstrate an “unusual nature.” First, that the contractor did not know of the condition. Second, that the contractor could not have anticipated the condition with inspection or general experience. Third, that the condition varied from the

norm in similar contract work. In sum, *Lathan* results in a contractor having to demonstrate that the condition was “unknown, unforeseeable, and unusual.” Moreover, *Layne Tex. Co.*, IBCA 362, 65-1 BCA further defines an unusual condition as that being judged by the normal conditions of the area, not the normal experience of the contractor.

Accordingly, a risk sharing arrangement should not assign any cost or schedule risk to a contractor that is inconsistent with the differing site conditions clause (especially for MILCON and/or ER projects). Inversely, the government should not assume schedule or cost risk for any differing site conditions that the Court has already determined to be an inherent contractor risk.

Issue 6: Changes. There are a number of standard FAR clauses that define a contract change and prescribe how changes are to be managed. In general, the standard definition of changes allowable under a contract includes:

- Description of the services to be performed;
- Time of performances (i.e., hours of the day, days of the week, etc.);
- Place of performance of the services;
- Drawings, designs, or specifications when the supplies to be furnished are to be specifically manufactured for the government in accordance with the drawings, designs or specifications;
- Method of shipment or packing of supplies; and
- Place of delivery.

The standard FAR change clause states that “if any such change causes an increase or decrease in the estimated cost of, or the time required for, performance of any part of the work under this contract, whether or not changed by the order, or otherwise affects any other terms and conditions of this contract, the Contracting Officer shall make an equitable adjustment in the: (1) estimated cost, delivery or completion schedule, or both; (2) the amount of any fixed fee; and (3) other affected terms and shall modify the contract accordingly” (FAR 52.243-2).

The change clause is designed to afford the government flexibility in ensuring its needs and requirements are met. In effect, a “change” is a follow-on sole source procurement, albeit, it must be within the general scope of the contract. Any change that is not “within the general scope of the contract” is considered a “cardinal change” and cannot be issued under the auspices of the change clause.

There is significant case law defining the meaning of “within the general scope of the contract.” The key determinant as to whether a change is within the general scope of the contract is whether the associated work “should be regarded as having been fairly and responsibly within the contemplation of the parties when the contract was entered into” (see *Freund v. United States*, 260 U.S. 60 [1922]). An interesting aspect of what is acceptable under the auspices of the

change clause is that a change in the quantity of major items is not generally allowable as a change (see *General Contracting & Constr. Co.*, 84 Ct. Cl. 570 [1937]), nor are major work deletions (i.e., the Court has looked at major work scope deletions as partial terminations for convenience under the termination clause of a contract, not changes under the change clause).

The Court has consistently reiterated a contractor’s right to contract adjustment if the contractor proceeded with the government’s direction. This concept is best summarized in *Emerson-Sack-Warner Corp.*, ASBCA 6004, 61-2, BCA, in which the Armed Services Board of Contract Appeals stated “where as a result of the government’s misinterpretation of contract provision a contractor is required to perform more or different work, or to a higher standard not called for under its terms, the contractor is entitled to equitable adjustments pursuant to the Changes Article, including extensions of time.” Moreover, a contractor is also entitled to adjustment when ordered to follow the government’s interpretation of the contract specifications, even if they are ambiguous (see *Mifflinburg Body Works, Inc.*, ASBCA 427, 4 CCF (1950), where the board stated that “since the contractor has been called upon to produce under a more costly method by virtue of the government’s interpretation of the ambiguous specifications...such interpretation by the government amounted in reality to a change in the contract for which equitable adjustment should be made”).

From a risk management standpoint, the most important point is that any revision to an initial risk sharing/risk mitigation

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strategy after contract award could constitute a change under the change clause. In such an event, a contractor most likely will be entitled to equitable adjustment. A likely scenario would be one where additional risks are identified during contract execution that serve to modify a contractor's "risk portfolio," relative to what was contemplated by the parties at the time of contract award. Given this, any changes to a risk sharing arrangement should be reviewed by the Contracting Officer before being put into effect.

Issue 7: Constructive Changes. Constructive changes are changes "relating to a contract," as opposed to "arising under a contract." In other words, constructive changes do not have to relate to specific FAR clauses or specific verbiage of a contract *per se*, but to the overall expectations of the contract. There are a number of different constructive changes that have been defined by the Court; however, the one most relevant to the issue of risk management is that of defective government specifications.

There is a basic premise in contract law that government specifications in a contract are accurate. Therefore, if a specification proves to be defective, a contractor is entitled to equitable adjustment. However, this entitlement is only applicable to defective specifications. It is not applicable to defective government estimates or projections if they are represented in a contract for informational purposes.

Given this, care should be exercised in negotiating any risk sharing arrangement or risk mitigation strategy where a contractor is being asked to assume the cost and schedule risk associated with government specifications being inaccurate

or incomplete. As a general rule, the government should always bear the risk of its specifications being accurate.

THE ROLE OF THE CONTRACTING OFFICER

Given the subtleties of the contract law that could impact the success of a Project's risk management program, sound management practices dictate that a Project Office's Contracting Officer should be a key member of a Project's risk management team. This avoids the situation where a key issue is not brought to the Contracting Officer's attention because the risk management team does not recognize the issue as one requiring Contracting Officer review. By including the Contracting Officer as a permanent member of a Project's risk management team from the outset, this situation can be avoided.

CONCLUSION

Risk management is an extremely powerful component of the DoD's approach to procuring major capital systems. However, the current DoD direction could be improved if it were to incorporate a more robust discussion of the nexus between risk management and contract administration. Although not intended to be the final say on this issue, this article

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represents an attempt to raise DoD Project Office awareness in understanding this critical yet misunderstood issue. To recap, DoD Project Offices would be well served to: (1) use the results from their pre-acquisition risk analysis to chose an appropriate contract vehicle vis-à-vis the nature of the risk identified in the analysis; (2) adopt sound risk management practices for all major acquisition projects, including MILCON and ER; (3) ensure that the

FAR clauses invoked in a contract are congruent with the risk sharing arrangement agreed to by the parties; and (4) ensure that the Contracting Officer is included as a key member of a Project Office's risk management team.

By better linking sound risk management practices with sound contract administration practices, the DoD stands to continue being the bellwether federal agency for pushing the state-of-the-art in effective risk management.



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ENDNOTES

1. The genesis for incorporating risk management into all federal government capital acquisitions began as an outgrowth of the Government Performance and Results Act. In response to the requirements of the Act, the Clinton Administration's National Performance Review (NPR) recommended a number of ways to improve government performance, including the application of risk management for acquiring and upgrading capital assets. As a result of the NPR's recommendations, the Office of Management and Budget revised its Capital Programming Guidance in a July 22, 1997 Supplement to OMB Circular A-11. That guidance incorporates risk analysis as the basis for planning and acquiring all capital assets, including capital asset upgrades (including ER projects).

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